

# Papers Presented at the 30<sup>th</sup> Congress on Science and Technology of Thailand, 19-21 October 2004, Bangkok

## Physics

1. **Sirisukprasert J., Malasri P., Rujijangul G., Tunkasiri T.** Effect of Sintering Temperature on Physical and Electrical Properties of Lanthanum and Manganese doped Lead Titanate Ceramics.
2. **Nhuapeng W., Huthayanon T., Thamjaree W., Tunkasiri T.** Effect of Sintering Temperature on The Properties of Plzt.
3. **Choopun S., Tapnurat M., Mangkorntong P., Wongsila S., Mangkorntong N.** Fabrication of Au Doped MoO<sub>3</sub> Gas Sensor for Alcohol Sensing.
4. **Udomporn A., Ananta S.** Preparation of PMN powder via rapid vibro-milling technique.
5. **Klinbumrung A., Wirojnupatump S., Singjai P., Jiansirisomboon S.** Wear Resistance of Silicon Carbide Nanofiber Reinforced Aluminium-12 wt% Silicon Composite Coating Prepared by Thermal Spraying.
6. **Ketsuwan P., Mangkorntong P., Choopun S., Wongsila S., Bunsoong T., Taywaditthep K., Mangkorntong N.** Construction of a Breath Alcohol Analyzer Using SnO<sub>2</sub> Gas Sensor.
7. **Wongsila S., Usa S., Mangkorntong P., Choopun S., Mangkorntong N.** Construction and Testing of An Analog Breath Alcohol Meter.
8. **Noimanee S., Tuntrakoon J., Rujijanakool G., Sophonthummarak S., Chaisupun S.** Development of ECG System Monitor via Mobile Telephone.
9. **Maichandee S., Kreasuwan J.** Analysis of Atmospheric Stability in Chiang Mai Province from Sounding and Calmet Model.
10. **Kreasuwan J., Promnopas W., Wirunvedchayun O., Srinoi S.** Simulation of the favorable condition heavy rainfalls due to effect of the active south-west monsoon and chanthu depression by MM5.
11. **Promnopas W., Patima P., Kreasuwan J.** Numerical simulation of the active low pressure area over Cambodia by MM5.
12. **Kreasuwan J., Promnopad W., Ratjiranukool P.** Numerical weather simulation of the O2B cyclone in Thailand by WRF Model.
13. **Kreasuwan J., Prochai W., Netsuwan K.** Numerical simulation of active monsoon trough over northeastern Thailand by MM5.
14. **Kreasuwan J., Promnopas W., Inthacha S.** Numerical Weather Simulation of the Chanthu depression track by WRF.
15. **Kreasuwan J., Promnopas W., Srinoi S., Surain C.** Numerical simulation of the depression in the gulf of Thailand by WRF.

16. **Jirungnimitsakul S., Kreasuwan J.** Application of CALPUFF Model on Sulfur Dioxide Dispersion from Mae Moh Power Plant.
17. **Ananta S.** Processing-Structure-Property Relationships in Smart Materials: The Complex Perovskite Ceramic System.
18. **Jiansirisomboon S., Yudee A.** Preparation of Flame-Sprayed Aluminium – 12 wt% Silicon Coatings Via Experimental Design Technique.
19. **Boonyopakorn N., Dangtip S., Osotchan T., Singkarat S., Kamwanna T., Thongleurm C.** Characterization of Conduction Thin Films Prepared by RF Magnetron Sputtering.
20. **Phadungdhitidhada S., Mangkorntong P., Towta S., Tanunchai S., Wongsila S., Choopun S., Mankorntong N.** Growth of Molybdenum Trioxide Nanowhiskers by Vapor Transport Method.
21. **Hongsith N., Tanunchai S., Choopun S., Chairuang Sri T., Mangkorntong P., Mangkorntong N.** Synthesis of ZnO Nanowire by RF Sputtering.
22. **Roatjanapanitkit R., Mangkorntong P., Anukool W., Wongsila S.** Fraunhofer Pattern of Josephson Critical Current in Bi-2212 Cross-Whiskers Junction.
23. **Lacharojana S., Prasatkhetragarn A., Wongtawatnugool C.** Construction of a LIF System Utilizing CCD-Array.
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25. **Maungma R., Wongtawatnugool C., Lacharojana S.** Instant Noodles MonoSodium Glutamate Measurement.
26. **Prasatkhetragarn A., Wongtawatnugool C., Lacharojana S.** Dental Caries As Seen by Laser Induced Fluorescence.
27. **Dangudom K., Wongtawatnugool C., Lacharojana S.** The Effect of Time Constant on AC Resistance Bridge Temperature Control System.
28. **Wangmool P., Wongtawatnugool C., Lacharojana S.** Lidar Application to Cloud Distribution.
29. **Sooksan R., Wongtawatnugool C., Lacharojana S.** High Voltage Pulse Optical Switch.
30. **Rojsuparat H., Wongtawatnugool C., Lacharojana S.** Fluorescence of Gemstone under Nitrogen Laser.
31. **Pholnak C., Mangkorntong P., Towta S., Choopun S., Thananchai S., Wongsila S., Mangkorntong N.** An Improvement of an AC Susceptibility Measuring System.
32. **Chamunglap S., Ananta S., Yimnirun R.** Effects of Uniaxial Stress on Dielectric Properties of PZT and 0.95PZT-0.05BT Ceramics.
33. **Wongsaenmai R., Ngamjarurojana A., Tipakontitikul R., Ananta T., Yimnirun R.** Effect of Poling Conditions on Hysteresis Properties of 0.1PMN-0.9PZT Ceramic.

34. **Wongmaneerung R., Yimnirun R., Ananta S.** Effect of Milling Time on Phase Formation and Particle Size Distribution of Lead Titanate Powders.
35. **Ngamjarrojana A., Wongsanmai S., Ananta S., Yimnirun R.** Effect of Uniaxial Stress on Hysteresis Properties of Lead Zirconate Titanate Ceramic.
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37. **Tipakontitikul R., Ngamjarrojana A., Wongsanmai S., Ananta S., Yimnirun R.** Measurement of Planar Electromechanical Coupling Coefficient ( $k_p$ ) of Lead Magnesium Niobate-Lead Zirconate Titanate Ceramics By Resonance Method.
38. **Prapitpongwanich P., Pengpat K., Singjai P.** Synthesis of Silicon Carbide – Aluminium Tetroxycarbide Nanofibers from Pencil Rod by Current Heating Technique.
39. **Dararutana P., Promsean S., Taowjamnong P., Sirikulrat N.** New-Constructed Ancient Thai Glass.
40. **Jiansirisomboon S., Choesjai T., Niranatlumpong P.** Suitable Current for The Preparation of Aluminium – 12 wt% Silicon Arc-Sprayed Coatings.
41. **Sawangwan N., Tontragoon J., Tunkasiri T.** The processing of PZT Ceramic Tape Casting.
42. **Intatha U., Eitssayeam E., Pengpat K., Tontragoon J., Tunkasiri T.** The Preparation of Barium Iron Niobate ( $\text{BaFe}_{0.5}\text{Nb}_{0.5}\text{O}_3$ ) Ceramics by Solid – State Reaction Technique.
43. **Eitssayeam S., Intatha U., Thongkum T., Pengpat K., Tontragoon J., Tunkasiri T.** The Preparation of 0.9PZT – 0.1BFN Powder by Solid-State Reaction Technique.
44. **Pinetsiri P., Chaisupan S., Tontragoon J.** A Study on Electrical Properties of Zinc Oxide Modified with Metal Oxides.
45. **Munpakdee A., Tontragoon J., Tunkasiri T.** Phase Formation and Microstructure of Low Firing  $0.98\text{BaTiO}_3\text{-}0.02\text{Ba}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$  Ceramics with  $\text{Bi}_2\text{O}_3/\text{Li}_2\text{CO}_3\text{-PbO}$  Fluxing Agents.
46. **Thamjaree W., Nhuapeng W., Tunkasiri T.** Preparation of Hybrid Composites Between PZT and Epoxy Resin.
47. **Thamjaree W., Nhuapeng W., Tunkasiri T.** Effect of Codopants on The Properties of Lead Zirconate Titanate Ceramics.
48. **Jiansirisomboon S., Songsiri K., Tunkasiri T.** Effect of Electrical Poling on Mechanical Properties in PMN-PZT Ceramics.
49. **Suwangwan N., Tontragoon J., Tunkasiri T.** The Effect of Heating Rate on The Electrical Properties on  $\text{MnO}_2$  Doped  $\text{Pb}(\text{Zr,Ti})$  Tape Ceramics.
50. **Bongkarn T., Rujijanagul G., Tunkasiri T.** Mechanical Properties of  $(\text{Pb}_{0.90}\text{Ba}_{0.1})\text{ZrO}_3$  Ceramics.
51. **Pengpat K., Hanpimol S., Thongkum T., Intatha U., Eitssayeam S., Tunkasiri T.** The Phase Evolution Study of  $(\text{Bi}_{0.5}\text{Na}_{0.5})\text{TiO}_3\text{-Bi}_4\text{Ti}_3\text{O}_{12}$  System by X-ray Diffraction Technique.

52. **BoonJaeng S., Chaipanich A., Tunkasiri T.** Effect of Milling Time on Properties of PMN Ceramics.
53. **Chaipanich A., Boonjang S., Pengpat K., Tunkasiri T.** Effect of Milling Time on Calcination Condition of PMN Powder.
54. **Punantapong B., Thongtem S., Fagan J.M., Soorapanth C.** Effect of Mechanical Load of Elastic Deformation of Coated Cartilage Surface.

### **Chemistry**

1. **Khamlhek S., Chairote G.** Comparison of Volatile Aroma Compounds of Fresh Guava, Guava Juice and Pickled Guava.
2. **Pojanagaroon T., Liawruangrath S., Prasertkithwattana P., Rattanaphani V.** Determination of Some Alkali Earth Metals In Natural Salts By Inductively Coupled Plasma-Atomic Emission Spectrometry.
3. **Wangkarn S., Chanvaivit S., Mingmuang A.** A Study of Sorption of Heavy Metals Using *Padina Haitiensis* Thivy.
4. **Kanjanawong S., Thongban S., Phutdhawong W.** Low Cost and Simple Assembly Short-Long Wavelength UV-Box for Organic Chemistry Laboratory.
5. **Cheotacha R., Sriburi P.** Influence of Ascorbic Acid and Oleic Acid on Gelatinization and Retrogradation of Starch.
6. **Puranamaneewiwat N., Niamsup H., Tajima S.** Growth of *Bradyrhizobium Japonicum* USDA110, NA6080, and NA6154 in Acid Condition.
7. **Yoomee P., Kungtong G., Phanichphant S.** Sol Gel Route to Iron Niobate Fine Powders.
8. **Dechakiatkrai C., Tengfjaroenkul U., Chantara S.** Determination of 20-Hydroxyecdysone and Ecdysone by High Performance Liquid Chromatography.
9. **Chantiwas R., Kongtawelert P., Kradtap S., Jakmune J., Grudpan K.** Development of Bead Injection System for Chondroitin 6-Sulfate Assay.
10. **Jitmanee K., Sritharathikhun P., Motomizu S.** Collection/Concentration Approaches for Ultratrace Analysis of Gaseous Pollutants and Toxic Elements.
11. **Wattaiad K., Nganrungreung S., Chantiwas R., Grudpan K.** Flow Injection System for Bradford Protein Assay.
12. **Siriangkhwut W., Suteerapataranon S., Jakmune J., Grudpan K.** On-Line Standard Addition with Nitrogen Monosegment Sequential Injection for Voltammetric Determination of Cadmium Lead and Copper.
13. **Burakham R., Lapanantnoppakhun S., Jakmune J., Grudpan K.** Development of Sequential Injection Analysis with Lab-Atvalve for On-Line Liquid-Liquid Extraction.

14. **Tue-Ngeun O., Jakmune J., Grudpan K.** A Stopped Flow Injection-Differential Pulse Voltammetric (sFI-DPV) System for Simultaneous Determination of Chlorate and Chlorite in Agrochemical Samples.
15. **Chantarasupasen J., Wangkarn S.** Analysis of Ascorbic Acid in Fruit Juice Samples and Vitamin C tablets by Capillary Electrophoresis.
16. **Amatatongchai M., Nacapricha D., Chailapakul O., Wilairat P., Grudpan K.** Novel Chromatographic Detection of Iodide in Pharmaceutical Products Using the Boron Doped-diamond Thin Film Electrode.
17. **Manosroi A., Khanrin P., Teerawutgulrag A., Buddhasuk D., Manosoi J.** Synthesis of 5,6-Epoxyprogesterone Acetate From Progesterone Acetate by Epoxidation Reaction.
18. **Youngvise N., Lelasattarathkul T., Liawruangrath S.** Strategies to Greener Analytical Chemistry Including Micro Total Analysis System.
19. **Sangchan W., Chantara S., Wangkarn S., Mosback H.** Extraction of Polycyclic Aromatic Hydrocarbons in Airborne Particulate Matter.
20. **Suksaranjit P., Seesiadka T., Wongpornchai S.** Application of Gas Chromatography-Mass Spectrometry in The Study of Volatile and Aroma Compounds in Leaves and Grain with Ripening Phase of Khao Dawk Mali 105 Rice.
21. **Pripdeevech P., Wongpornchai S., Promsiri A.** Analysis of Essential Oil Compositions of *Vetiveria Zizanioides* Nash Detected by Solid Phase Microextraction and Gas Chromatography-Mass Spectrometry.
22. **Sisiedka T., Wongpronchai S.** Direct Analysis of 2-Acetyl-1-Pyrroline in Rice Using Headspace-Gas Chromatography.
23. **Boonmalai A., Kradtap S., Jakmune J., Grudpan K.** Flow Injection-Bead Injection System for Determination of Copper at Trace Level.
24. **Makchit J., Liawruangrath S., Liawruangrath B.** Simple Flow Injection Spectrophotometric Procedure for Determination of Diazepam in Pharmaceutical Formulation.
25. **Liawruangrath S., Chuesaard T., Liawruangrath B.** Development of a Computer flow Injection System for Chlorate Determination.
26. **Lelasattarathkul T., Youngvise N., Ouangpipath W., Liawruangrath S.** Design Lab on a Chip with Optical Sensor for Determination of Copper (II) in Micro Flow System.
27. **Tengjaroenkul U., Prasertsomboon C., Jongrak N.** Adsorption of Copper (II) Ions on Different Matrices.
28. **Kruanetr S., Rattanaphani S., Rattanaphani W., Liawruangrath S.** Synthesis Modification and Characterization of Superconductor  $\text{Bi}_2\text{Ca}_2\text{Sr}_2\text{Cu}_2\text{O}_x$ .
29. **Pachthong C., Supyen D., Buddhasukh D., Jatisatienr A.** Separation and Characterization of Castasterone from Seeds of *Delonix regia* Raf.

30. **Kittiwachana S., Jakmune J., Kradtap S., Lapanantnoppakhun L., Grudpan K.**  
Development of Flow Injection Spectrophotometry for Determination of Ethanol in Beverages.
31. **Jakmune J., Lic J., Grudpana K., Dasguptac K.P.** Sequential Injection Analysis with a Cost-Effective Fluorescence Detector for Determination of Ammonium.
32. **Winotai P., Ounnunkad S.** The Effect of Cr-Substituted M-Type Barium Ferrites.
33. **Lapanantnoppakhun S., Jitmanee K., Jakmune J., Jayasvasti S., Motomizu S., Sakai T., Grudpan K.** Determination of Trace Amount of Aluminum in Water by Flow Injection with a Home-Made Preconcentration System.
34. **Thiemsorn W., Keowkamnerd K., Hessenkemper H., Suwannathada P., Phanichphant S.**  
Influence of Sodium Oxide Content of The Structural Changes of Industrial Soda-Lime-Silica Glass.

### ***Industrial Chemistry***

1. **Kengkhetkit N., Phumchusak J.** Improvement of Mechanical Properties of Polystyrene by Pineapple Leaf fibres.
2. **Pumchusak J., Komboonchoo S., Chaiwong N., Mahachaiwong N., Buddhasukh D., Haewsungcharern A.** Development of Multi-Natural Dyes Dyeing Process on Cotton Yarn for Various Shades of Green for Cottage Industry.
3. **Komboonchoo S., Pumchusak J., Chaiwong N., Mahachaiwong N., Buddhasukh D., Haewsungcharern A.** Multi-Natural Dyes Dyeing on Cotton Yarn for Black Color.
4. **Chaiwong N., Pumchusak J., Komboonchoo S., Mahachaiwong N., Buddhasukh D., Haewsungcharern A.** Multi-Natural Dyes Dyeing on Cotton Yarn for Various Shades of Brown.
5. **Moonsri P., Haewsungcharern A.** Effects of Some and Tannic Acid on Dyeing of Cotton Yarn with Dye Extract from Heartwood of Jackfruit.
6. **Kaewmesri W., Jiraarun N.** Effects of Formalin and Hydrochloric Acid on Properties of Poly (vinyl alcohol ) Sponge.
7. **Nuntiya A., Prasanphan S., Chaiwong N.** Effects of Solid Content, pH and Deflocculant on Viscosity and Thixotropy of Thai Kaolins.
8. **Nuntiya A., Prasanphan S.** Isoelectric Point Determination of Thai Kaolins.
9. **Kaewmesri W., Jira-arun N.** Synthesis and Properties of Poly (Vinyl Alcohol) Sponge.

### ***Biology***

1. **Chantrasri P., Sardsud U., Sardsud V.** Combining Yeasts and Chitosan Treatment to Reduce Anthracnose Fruit Rot Mangoes.
2. **Boomtim N., Boontim S., Lumyong S.** Study and Collection of Num Pu Formular for Product Development.

3. **Puenphasook N., Sitasuwan N.** Behaviour of Giant Panda (*Ailuropoda melanoleuca*) in captivity at Chiang Mai Zoo.
4. **Leksawasdi P., Rukkasikorn A.** Study on Webspinners Order Embiidina in Chiang Mai University.
5. **Promya J.,** Hongvityakorn P., Traichaiyaporn S. Improvement Meat Quality of Red Tilapia (*Oreochromis Niloticus* Linn.) Using *Spirulina Platensis* and *Cladophora* sp.
6. **Khuantrairong T., Traichaiyaporn S.** Water Quality and Phytoplankton Diversity in Doi Tao Lake, Chiang Mai Province.
7. **Junshum P., Traichaiyaporn S., Menasveta P., Rojanapaibul A., Chunluchanon S.** Water Quality at the Mae Moh Plant, Lampang Province (II).
8. **Pinkate C., Traichaiyaporn S.** Impact of Fish Cages on Water Quality and Diversity of Phytoplankton in Reservoirs of Mae Moh Power Plant (II).
9. **Donghong N., Trichaiyaporn S.** Correlation of Nitrogen and Phosphorus on Algae Diversity in Doi Tao Lake, Chiang Mai (I).
10. **Peerapornpisal Y., Pongsirikul I., Ruangrit K., Pekkoh J., Preangkarn S., Sutjaritvongsanond K., Mungmai R., Tongsir S., Khumklang A.** Potential Use of Freshwater Macroalgae in Nan River as Food and Drug in The Second Year.
11. **Traichaiyaporn S., Junshum P.** Dynamics of Two New Record Genera of Freshwater Red Algae in Thailand: *Audouliella* and *Compsopogonopsis* in A Lotic Ecosystem of Mae Moh Power Plant, Lampang Province.
12. **Aritajat S., Vutteerapol S., Saenphet K.** Blood Chemical and Hematological Analysis of Wistar Rat Treated With Aqueous Extract of *Coscinium Fenestratum*.
13. **Jaiinpon J., Cheeptham N., Sonthichai W., Lumyong S.** Optimization of antifungal antibiotic production of Actinomycetes from cave soil.
14. **Taechowisan T., Yuemao S., Lumyong S.** Isolation of 4-Arylcoumarin from *Streptomyces Aureofaciens* and Its Antifungal Activity.
15. **Sontichai S., Promkutkaew S., Nakamura M.** Some Hornet Species (Hymenoptera, Vespidae) in Thailand.
16. **Gavinjan N., Suwanrat S., Sontichai S.** Effects of Forest Restoration on Plant Litter Dynamic and Soil Invertebrate Diversity of Doi Suthep-Pui National Park.
17. **Vongkuna K., Santanachote K.** Diversity of Epiphytic Mosses at Huay Kog-Ma Doi Suthep-Pui National Park Chaiang Mai Province.

### **Geological Sciences**

1. **Ratanasthien B., Srithai B., Uttamo W., Kandharosa W., Charerntham S., Wongtui P.** Geochemistry of Sediments Associated with Dinosaur Deposits in Thailand.

2. **Hanta R., Kunimatsu Y., Ratanasthien B., Vidthayanon C.** A Preliminary Report on Subfossil Canids from the Noi River, Ayutthaya Province, Central Thailand.

### **Computer Sciences**

1. **Liamwirat C., Lenghor N., Chaijaruwanich J., Grudpan K.** Gasoline Dynamic Interfacial Pressure Profiles Data Analysis Program.